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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 09/508,771 | 03/16/2000 | JINKO KIMURA | 500.38296X00 | 8406 |
| 24203 | 7590 | 08/25/2005 | EXAMINER | |
| GRIFFIN & SZIPL, PC SUITE PH-1 2300 NINTH STREET, SOUTH ARLINGTON, VA 22204 | | | WALKE, AMANDA C | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1752 | |

DATE MAILED: 08/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 09/508,771 | | KIMURA ET AL. | |
| | Examiner | | Art Unit | |
| | Amanda C. Walke | | 1752 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10,12-19,21-25 and 27-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10,12-19,21-25 and 27-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/13/2005 has been entered.

Claim Interpretations

The claims contain the limitation that the number of claimed fish eyes does not exceed 5 fish eye/m² when measured under a microscope at a multiplication of 100. It is the examiner's position that the requirement of measuring the film under a microscope does not further define the claimed material. The protecting film (C) would contain the same number of fish eyes at the given diameter no matter how it is evaluated.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-10, 13-19, 21-25, and 28-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi (4,360,582) in view of Mannion (5,198,484).

Taguchi teaches a photopolymerizable element comprising a layer of a photopolymerizable composition and a film support made of a transparent material. In order to

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produce a resist image on a substrate, the photopolymerizable layer is applied to a substrate, exposed imagewise to actinic radiation and developed to form an image (c. 3, 1. 20-46). The said element may further comprise a strippable protective film provided on the other surface of the photopolymerizable composition layer for preventing blocking at the winding step and adhesion of dust during handling (c. 3, 1. 62-68). Appropriate materials for the said protective film include polyethylene terephthalate, polypropylene film, polyethylene film, cellulose triacetate film, polyamide and polyethylene laminated paper (c. 10, 1. 15-23). Taguchi teaches that the thinner the photopolymerizable layer, the more the resolution is improved (c. 9, 1. 17-19). Example 1 exemplifies a solution comprising poly(methyl methacrylate) as an organic binder, a photopolymerization monomer, and a photoinitiator coating onto a 50 micron thick polypropylene film and dried to form a photopolymerizable layer having a dry thickness of 10 microns. The said layer was then laminated onto a 20 micron-thick poly(methyl methacrylate) support film. The polypropylene film was then stripped and the said layer was laminated to a treated copper-clad epoxy resin fiberglass substrate. The formed element was then exposed to actinic rays and developed to form a negative image. An etching process was then performed to remove the copper at the areas unprotected by the resist image (c. 16, 1. 30-c. 17, 1. 17). While Taguchi is silent on fish eyes, it clearly teaches the use of a polypropylene protective film,

Mannion discloses a process for incorporating a clarifying agent into a semi-crystalline resin is provided whereby a clarifying agent is in the form of a powder of a mean particle size of 15 microns or less, is blended with the polyolefin resin, at a temperature above 170 degrees C. until the clarifying agent is dissolved in the molten resin. The use of clarifying agents to reduce the haze in articles manufactured from crystalline polyolefin resins, specifically polypropylene,

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is well known in the art. Representative acetals of sorbitol and xylitol, which have been employed as clarifying agents. One approach used to eliminate bubbles or "fish eyes" is with sorbitol acetal clarified polyolefins. This method involves using a distribution of di-acetals of sorbitol made from a mixture of benzaldehyde and di- or tri-methyl substituted benzaldehyde. The composition has a relatively low melting point, but still must be compounded above its melting point to avoid bubbles. Also, the composition has relatively poor clarifying properties compared to di-acetals of sorbitol made entirely from alkyl substituted benzaldehydes. The polyolefin polymers of the present invention may include aliphatic polyolefins and copolymers made from at least one aliphatic olefin and one or more ethylenically unsaturated comonomers. Generally, the comonomers, if present, will be provided in a minor amount, e.g., about 10% or less or even about 5% or less, based upon the weight of the polyolefin. Such comonomers may serve to assist in clarity improvement of the polyolefin, or they may function to include other properties of the polymer. Examples include acrylic acid, methacrylic acid, and esters of the same, vinyl acetate, etc. Examples of olefin polymers whose transparency can be improved conveniently according to the present invention are polymers and copolymers of aliphatic mono-olefins containing from 2 to about 6 carbon atoms, which have an average molecular weight of from about 10,000 to about 2,000,000, preferably from about 30,000 to about 300,000, such as polyethylene, linear low density polyethylene, polypropylene, crystalline ethylene/propylene copolymer (random or block), poly(1-butene) and polymethylpentene. The polyolefins of the present invention may be described as semi-crystalline, basically linear, regular polymers which may optionally contain side chains, such as are found in conventional low density polyethylene. Other polymers which may benefit from the reduced particle sized clarifying agents of the

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present invention include polyethylene terephthalate, glycol modified polyethylene terphthalate, polybutylene terephthalate, and polyamides. The process of the present invention is particularly adapted for commercial compounding of a clarifying agent and polyolefin resin. The term "compounding" is used broadly to describe the process of dispersing clarifying agent throughout a resin while the resin is in a molten state, i.e. heated to above its melting point. Often, the base resin, which has the appearance of a fluffy particulate, is dry blended with the desired additives including clarifying agents and extruded by the resin manufacturer. The resin is usually extruded a second time immediately before being processed into finished articles by, for example, injection molding, extrusion blow molding, injection blow molding, stretch blow molding, compression molding, rotational molding, profile extrusion, sheet extrusion, thermal forming, film extrusion, and film extrusion with orientation. Regardless of how many times the mixture of resin and clarifying agent is extruded or otherwise blended while in a molten state, it is important that prior to forming the composition into an article, that the clarifying agent be dissolved in the resin melt. In many cases, dissolution will be accomplished by the clarifying agent melting and being distributed throughout the molten resin. However, an advantage of the present process is that the clarifying agent may dissolve in the molten resin without even approaching the melting point of the clarifying agent.

The reference specifically mentions that bubbles/n fish eyes are "eliminated", thus the addition of the compounds to the polymers results in a number of fish eyes meeting the instant claim limitations (zero).

Given the teachings of the references, it would have been obvious to one of ordinary skill in the art to prepare the protective film of Taguchi choosing to add the clarifying agents of

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Amnion to achieve higher transparency and better coating properties by "eliminating" bubbles/fish eyes, with reasonable expectation of achieving a material capable of forming a durable image.

4. Claims 12 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi in view of Mannion and further in view of Hoffmann (US 4,710,446).

Taguchi and Mannion have been discussed above teaches all the limitations of the instant claims except the specific initiators set forth in instant claims 12 and 27. Taguchi does however teach that the photopolymerizable layer comprises a photopolymerization initiator wherein the kind of initiator to be used is not particularly critical and any known photopolymerization initiator can be used (c. 6, 1. 42-45). It is the examiner's position that 2,4,5-triarylimidazole dimer is a well-known and conventional photoinitiator. This position is supported by the teachings of Hoffmann which teach that photoinitiator systems conventionally used for resist layer include benzophenone, 2,4,5- triarylimidazole dimmers and mixtures thereof (c. 6, 1. 9-27).

Response to Arguments

5. Applicant's arguments filed 6/13/2005 have been fully considered but they are not persuasive.

Applicant has submitted a declaration stating that the protective layer of Taguchi fails to meet the instant claim limitations for the number of fish eyes, and also fails to address fish eyes as a problem.

While the reference is silent with respect to the presence of fish eyes being a problem, one of ordinary skill in the art would desire a defect-free layer when preparing such a layer.

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Additionally, as stated by the MPEP, the prima facie case of obviousness is not undermined simply because applicant's motivation for preparing the material differs from that of the prior art's motivation. In re Dillon, 919 F.2d 688, 692-93, 16 USPQ2d 1897, 1901 (Fed. Cir. 1990) (in banc), cert. Denied, 500 U.S. 904 (1991).

Therefore, the lack of a teaching of what the fish eye population should or would be in and of itself does not overcome the rejection.

Additionally, applicant has argued that the reference fails to specifically teach the presence of the protective layer as it is an "optional" feature. While it is an "optional" feature, as admitted by applicant on page 3, section 7 of the declaration, the examples of Taguchi do employ a polyethylene protective layer. Also, the reference teaches the equivalence between the polyethylene and polypropylene film as admitted by applicant on page 3, section 6, of the declaration, thus, a polypropylene film is specifically contemplated.

Applicant's argument that conventional polypropylene films do vary and the showing of comparative conventional polypropylene film in sections 14 and 15, that absent a teaching about the method of manufacturing the film and that conventional polypropylene films do contain fish eyes, the examiner has presented a new grounds of rejection.

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Endo et al (5,932,341), Dai et al (6,922,890), and Tsutsumi et al (6,664,346) are cited for their teachings of similar materials.

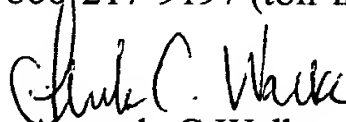
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda C. Walke whose telephone number is 571-272-1337.

The examiner can normally be reached on M-R 5:30-4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Amanda C Walke
Examiner
Art Unit 1752

ACW
August 16, 1005